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Ecological Consequences of Potash Ore Mining

Stebnyk State Mining and Chemical Enterprise “Polimineral” located in the town of Stebnyk, Drogobych area, and since 1946 operated potash deposit. Extraction was carried out in two potash ore mines with a total capacity of 4 million tons per year. In 1988, the chemical enrichment plant activity of the Stebnitskiy potash plant was stopped. In 2002, the mine 2 stopped working, and in 2003 the mine 1. Remaining recoverable reserves of potash ores are within 15.4 million tones.

As a many years result of the company following the environmental problems have arisen:

1. Potash ore mined without stowing, resulting in a more than 33 million m³ of voids, which led to subsidence and destruction of the earth's surface and utilities. Commissioning complex stowing capacity of 300 thousand m³ per year is not possible to solve this problem. During the operation of complex incorporated only 1.8 million m³ of mine voids. Currently, the total amount of underground cavities reaches 440 thousand m³ [1].

2. Weak reprocessing and enrichment polymineral ore led to the accumulation of chemically aggressive waste. The total amount of waste is more than 25 million tons, of which more than 4 million tons of liquid phase and 20 million tons of salt- clay waste flotation enrichment. [1] Liquid and solid waste potash production leading to contamination of groundwater and surface water and soil.

3. As a result, wet conservation field was flooding out space mines and activation of karsts processes. Residential development of Stebnyk, village Stanylya, railway station and other are located in affected areas. Recently, activation of karsts processes and the formation of silt continuously recorded, resulting in emergency situations. In addition, karsts adjacent to the sanitary protection zone Truskavets resort.

4. The lack of waterproofing to store toxins leads to massive contamination and solemnization of groundwater. Also, liquid and solid fractions brine carries environmental risk for the components of the environment and public health.

Thus, mining potash causes of adverse effects on the environment, utilities and public health.

In order to solve environmental problems in the field of Stebnyk potash ore urgent need to carry out conservation measures aimed at preventing the activation of karsts processes, distribution of highly mineralized brines, and reclamation of contaminated land.